



Broulee – Biodiversity Certification Assessment – Addendum

FINAL

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1 Introduction

Eco Logical Australia (ELA) was engaged by Eurobodalla Shire Council (ESC) to undertake a Biodiversity Certification Assessment of the Broulee Biodiversity Certification Assessment Area (ELA 2012). The Broulee Biodiversity Certification Assessment was placed on exhibition in 2013 and was subject to an extensive consultation process. As a result of this consultation, and some additional information which has been obtained since the assessment was undertaken, some changes to the Broulee Biodiversity Certification Assessment have been made and are identified in this Addendum.

Specifically, this addendum addresses:

- Minor changes to the extent of the proposed development and conservation areas;
- Changes to the conservation measures applied to the proposed conservation areas; and
- Changes to the credit calculations resulting from the changes identified above.

2 Changes to the Development and Conservation Areas

2.1 Broulee Urban Precinct Development Area

Existing Approved Development

The initial assessment did not consider three existing development approvals within the Development Area. These approvals are:

- An approximately 2 ha APZ on Lot 9 DP 1068530
- An approximately 0.49 ha APZ on Lot 20 DP 1174639
- Approximately 0.9 ha of clearing associated with a stockpile area on Lot 29 DP 1192460

These approved developments result in reductions in the credit requirement from the Development Area. The APZs were added to Vegetation Zone 9. The clearing within the stockpile area was considered to be cleared land.

Council Depot

An approximately 1.5 ha council depot area within the proposed Conservation Area 5 was removed from the Conservation Area. This action reduced the credits generated from Conservation Area 5.

Conservation Area 8

The northern boundary of the Conservation Area 8 was incorrectly mapped in the original assessment. The boundary was modified slightly to reflect the intended northern boundary of Conservation Area 8. This action reduced the credits generated from Conservation Area 8.

2.2 Yellow-bellied Glider Corridor Conservation Area

As an outcome of the community consultation process it was decided that the Yellow-bellied Glider Corridor east of George Bass Drive between Grant Street and Candalagan Drive would be included as a Conservation Area with an E2 Environmental Conservation Zone applied to these lands as follows:

- Conservation Area 9 - Lot 1 DP 825610 and Lot 3 DP 633700
- Conservation Area 10 - Lot 2 DP 825610, Lot 1 DP 1037342, Lot 64 DP 739830, Lot 34 DP 1138952 and a 0.7 ha crown road parcel.

The application of an E2 Environmental Conservation Zone to Conservation Areas 9 and 10 enables these areas to generate 25% of the potential credit creation of a funded and managed offset conservation mechanism i.e. Biobanking Agreement. However three of the lots within Conservation Area 10 (lots 34, 64 and 2) are currently subject to existing conservation obligations created through objectives and targets set in the ESC Plan of Management: natural areas and undeveloped reserves, and as such, a further 10 % discount is applied to the credits generated from these properties.

2.3 Moruya Racecourse Development Area

The initial assessment did not consider potential future development plans for Moruya Racecourse. These development plans include the potential clearing or modification of 7.08 ha of remnant native vegetation surrounding the existing racecourse facilities. The vegetation to be affected was in Vegetation Zones 1, 8 and 9, and a new Vegetation Zone 23.

Details of the characteristics of Vegetation Zone 23 are included as Appendix 1. The modified Assessment Area, Development Area and Conservation Area are identified in Figure 1, 2 and 3.



Figure 1: Proposed Development Areas



Figure 2: Proposed Conservation Areas



Figure 3: Lands Proposed for Biodiversity Certification

3 Changes to the Conservation Measures Applied to the Proposed Conservation Areas

3.1 Biobanking Agreement

As a result of the consultation process it was determined that the conservation measure for the majority of the proposed conservation areas should be changed from 'managed in perpetuity' to 'managed and funded in perpetuity' through the application of a Biobanking Agreement over conservation areas 1-8. This change results in a 100% credit entitlement from the affected conservation areas, which previously only received 90% of the potential credits generated.

3.2 Yellow-bellied Glider Corridor Conservation Area

As described in Section 2.2., it was decided that the Yellow-bellied Glider Corridor east of George Bass Drive between Grant Street and Candalagan Drive would be included as a Conservation Area with an E2 Environmental Conservation Zone. This change results in a 25% credit entitlement from the affected conservation areas, with a further 10% additionality discount applied to three lots which are subject to an existing ESC Plan of Management.

Those areas subject to additional reduction as a result of additional conservation measures are identified in Figure 4.



Figure 4: Area subject to additional reduction as a result of existing conservation obligations

4 Results

The changes identified in Sections 2 and 3 resulted in some changes to the Assessment which have, in turn, resulted in changes to the credit calculations. These changes are described in subsequent sections.

4.1 Assessment Area

The changes identified in Section 2 resulted in changes to the size of the Development Area, Conservation Area and Retained Lands as identified in Table 1 and Figure 3.

Table 1: Land use breakdown

ASSESSMENT AREA	AREA (HA)
Land Proposed for Biodiversity Certification (Development Area)	144.16
Land Proposed for Conservation (Conservation Area-Biobank Site)	405.33
Land Proposed for Conservation (Conservation Area-Planning Instrument)	8.32
Land within the Assessment Area that is not proposed for biodiversity certification or subject to a proposed conservation measure (Retained Lands)	44.24
Total	602.05

4.2 Area of Conservation Lands

The changes identified in Section 2 resulted in changes to the size of the Conservation Lands as identified in Table 2 and Figure 2.

Table 2: Area of conservation lands

CONSERVATION AREA ID	VEGETATION WHICH MEETS OFFSET REQUIREMENTS OF IMPACTS- ECOSYSTEM CREDITS (HA)	VEGETATION WHICH MEETS OFFSET REQUIREMENTS OF IMPACTS- SPECIES CREDITS (HA)	EXCLUDED AREAS (CLEARED LANDS AND VEGETATION THAT DOES NOT MEET OFFSET REQUIREMENTS) (HA)
1	174.9	174.9	12.3
2	34.3	59.3	2.0
3	69.7	69.7	3.9
4	9.7	10.2	0.4
5	25.2	34.2	2.1
6	0.7	1.1	10.9
7	7.1	7.1	0
8	17.0	17.0	0.2
9	6.2	6.2	0
10	2.1	2.1	0
Total	346.8	381.8	31.8

4.3 Area of Conservation Lands

The changes identified in Section 2 resulted in changes to the area of each Biometric Vegetation Type with the Development Area and Conservation Area as identified in Table 3 and Figure 5.

Table 3: Area of vegetation within the Development Area and Conservation Area

BIOMETRIC VEGETATION TYPE	AREA (HA)
Bangalay - Old-man Banksia open forest	422.6
Coast Banksia - Coast Wattle dune scrub**	25.0
Coastal freshwater lagoons*	12.9
Spotted Gum - Blackbutt shrubby open forest**	4.9
Spotted Gum - White Stringybark - Burrawang shrubby open forest**	5.1
Swamp Paperbark - Swamp Oak tall shrubland on estuarine flats, Sydney Basin and South East Corner*	9.8
Cleared Land*	77.5
Total	557.8

* Excluded from assessment of conservation lands as credits do not match the requirements of the impact sites

** Excluded from ecosystem credits but included in species credit calculations

4.4 Site Value, Landscape and Connectivity Scores

The site value score for the new Zone 23 is identified in Table 6. The changes identified in Section 2 did not result in any changes to the Landscape or Connectivity scores.

4.5 Impacts on Red Flags

The changes identified in Section 2 resulted in changes to the area of Red Flag vegetation types and White-footed Dunnart Habitat (also a Red Flag), as identified in Tables 4 and 5, and Figures 6 and 7.

Table 4: Impacts to red flagged vegetation

BIOMETRIC VEGETATION TYPE	EEC NAME	CLEARED (%)	AREA WITHIN THE DEVELOPMENT AREA AND CONSERVATION AREA (HA)	AREA IMPACTED (HA)	AREA IMPACTED (%)
Bangalay - Old-man Banksia open forest *	Bangalay Sand Forest	50%	399.6	52.8	13.2

* Excludes Zones 20 and 22 which are in low condition and therefore do not trigger red flags

Table 5: Impacts to White-footed Dunnart habitat

SPECIES NAME	AREA WITHIN THE DEVELOPMENT AREA AND CONSERVATION AREA (HA)	AREA IMPACTED (HA)	AREA IMPACTED (%)
White-footed Dunnart	457.6	75.74	16.6

Table 6: Site value score of vegetation zone 23

VEG ZONE ID	BIOMETRIC VEGETATION TYPE	ANCILLARY CONDITION CODE	CURRENT SITE VALUE SCORE	FUTURE SITE VALUE SCORE (DEVELOPMENT)	FUTURE SITE VALUE SCORE (CONSERVATION)					
					CONSERVATION LAND ONLY (NO OLS OR FMZ)	WITH OLS ZONE B	WITH OLS ZONE C	WITH OLS ZONE D	WITH OLS ZONE E	WITH FMZ
23	Bangalay - Old-man Banksia open forest	Under-scrubbed Regrowth with weedy groundcover	32.3*	0	N/A	N/A	N/A	N/A	N/A	N/A

* Site value score <34, therefore in Low condition as defined by the BCAM.

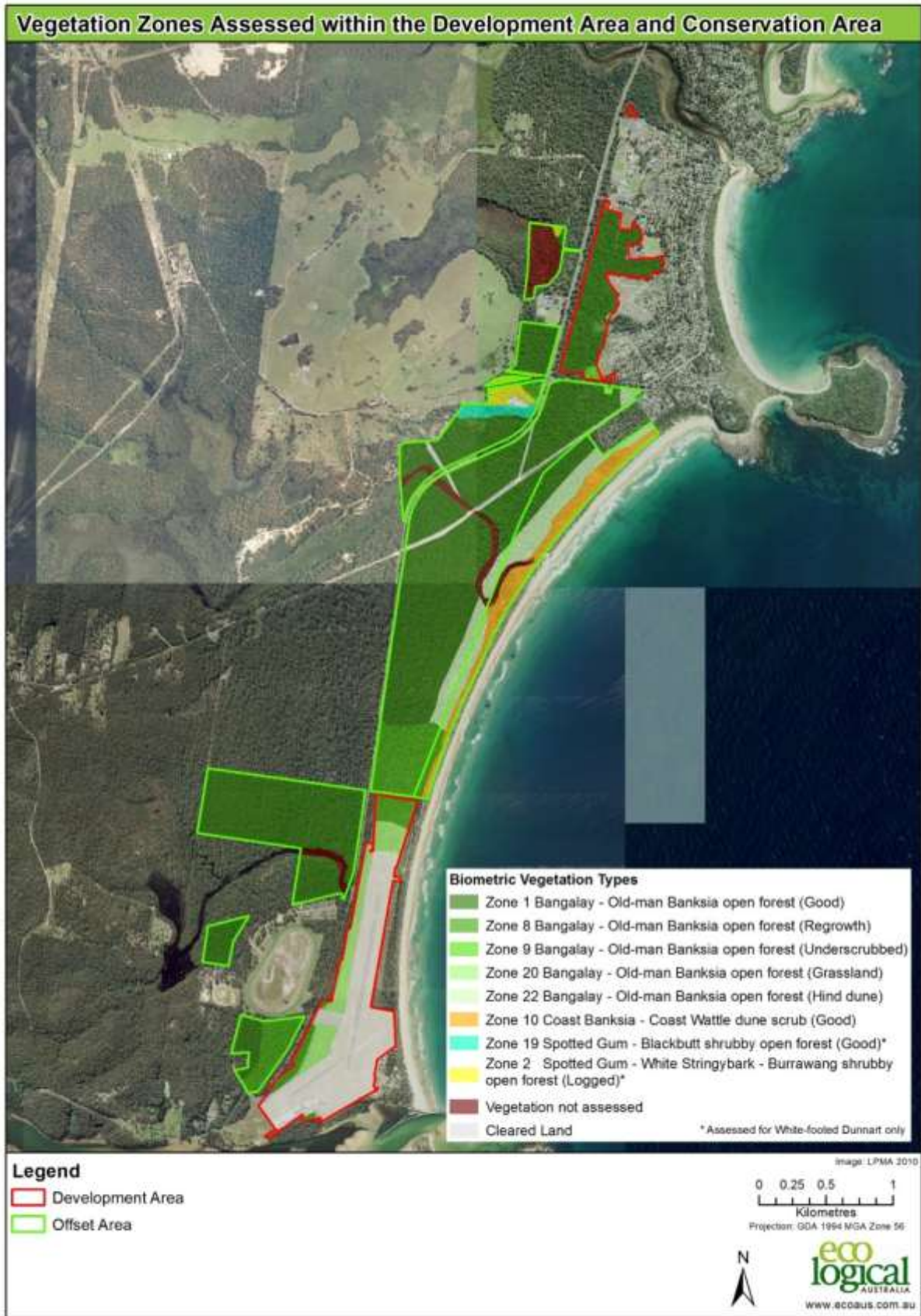


Figure 5: Vegetation zones assessed within the Development Area and Conservation Area



Figure 6: Vegetation Red Flags



Figure 7: White-footed Dunnart Red Flags

4.6 Indirect Impacts

Indirect impacts from the Moruya Racecourse Development Area were calculated consistent with the method applied elsewhere within the Assessment Area. Those areas where indirect impacts associated with the Moruya Racecourse Development Area are anticipated are identified in Figure 8. Table 7 identifies the revised indirect impact calculations which indicate a total of 25 additional credits required to offset the indirect impacts associated with the Broulee Urban Precinct, Moruya Airport and Moruya Racecourse Development Areas.

Table 7: Indirect Impact Calculations

ZONE ID	AREA (HA)	CURRENT SITE VALUE	FUTURE SITE VALUE (REDUCING EXOTIC COVER BY 1)	REDUCTION IN SITE VALUE USED TO CALCULATE CREDITS	CREDITS REQUIRED
Zone 1	2.36	84.90	80.73	4.17	14
Zone 8	1.87	64.80	60.59	4.17	11
Zone 20	0.06	32.30	29.18	3.12	1*

* rounded up from 0 to 1 credit

4.7 Credit Calculations

4.7.1 Ecosystem Credits

The changes identified in Section 2 and 3 resulted in changes to the ecosystem credit status as identified in Table 8.

Table 8: Final ecosystem credit results

VEGETATION TYPE NAME	CREDITS REQUIRED	CREDITS REQUIRED (INDIRECT)	CREDITS GENERATED* (100%)	CREDIT STATUS (100%)
Bangalay - Old-man Banksia open forest	2,558	25	3,806	1,223
Coast Banksia - Coast Wattle dune scrub	0	0	315	315
Total	2,558	25	4,121	1,538

* Credits generated for conservation areas 9 and 10 were reduced to 25% due to these areas being zoned as E2.

Credits generated also reduced by an additional 10% for conservation area 1 and parts of conservation area 10.

The results of the assessment demonstrate that the conservation lands identified are sufficient to offset the impacts of the proposal, with a surplus of 1,538 credits. Therefore, excluding the impacts on red flag areas, the proposal meets the improve or maintain test required under the BCAM.

4.7.2 Species Credits

The changes identified in Section 2 and 3 resulted in changes to the species credit status as identified in Table 9.

Table 9: Final species credit results

SPECIES NAME	CREDITS REQUIRED	CREDITS GENERATED* (100%)	CREDIT STATUS (100%)
White-footed Dunnart	1,993	2,089	95

* Credits generated for conservation areas 9 and 10 were reduced to 25% due to these areas being zoned as E2.

Credits generated also reduced by an additional 10% for conservation area 1 and parts of conservation area 10.

A total of 1,993 credits are required to offset the impacts to 75.7 ha of White-footed Dunnart habitat. The conservation lands generate 2,089 credits resulting in a 95 credit surplus.



Figure 8: Indirect Impacts Buffer – Moruya Racecourse

Appendix 1

Zone 23

Vegetation Type	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner
Ancillary Code	Under-scrubbed regrowth with weedy groundcover
Description	This zone occurs within the Moruya Racecourse Development Area. It is characterised by under-scrubbed and slashed regrowth Bangalay Sand Forest with no hollow-bearing trees and a weedy groundcover
Overstorey	Dominant canopy species include Bangalay (<i>Eucalyptus botryoides</i>) and to a lesser extent Blackbutt (<i>Eucalyptus pilularis</i>)
Midstorey	The mid-canopy is characteristically sparse or absent as a result of under-scrubbing
Groundcovers	Common groundcover species include Common Bracken Fern (<i>Pteridium esculentum</i>) and Blady Grass (<i>Imperata cylindrica</i>), and a range of exotic grasses and herbs
EEC	Bangalay Sand Forest



Photo 1: Typical regularly under-scrubbed and slashed regrowth Bangalay Sand Forest within Vegetation Zone 23

Appendix 2: Site Value Scores for each Vegetation Zone

Vegetation Zone 1: Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner (SR512)- MG (Good)

Offset Zone	Current Site Value	Future Site Value	Development	Offset Areas					
Airport Zone			N/A	None	B	C	D	E	None
Fuel Zone			N/A	None	None	None	None	None	Yes
Native plant species richness	3	3	0	3	3	3	3	3	3
Native over-storey	2	3	0	3	2	3	3	3	3
Native mid-storey	3	3	0	3	3	3	3	3	3
Native ground cover (grass)	2	3	0	3	3	3	3	3	3
Native ground cover (shrubs)	1	2	0	2	2	2	2	2	2
Native ground cover (other)	3	3	0	3	3	3	3	3	3
Exotic plant cover	3	3	0	3	3	3	3	3	3
Number of trees with hollows	3	3	0	3	3	3	3	3	3
Regeneration	3	3	0	3	3	3	3	3	3
Fallen Logs	2	3	0	3	3	3	3	3	2
Site Value Score	84.90	98.44	0.00	98.44	93.23	98.44	98.44	98.44	93.23

Vegetation Zone 8: Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner (SR512)- MG (Regrowth)

Offset Zone	Current Site Value	Future Site Value	Development	Offset Areas			
Airport Zone			N/A	B	C	D	E
Fuel Zone			N/A	None	None	None	None
Native plant species richness	3	3	0	3	3	3	3
Native over-storey	3	3	0	3	3	3	3
Native mid-storey	2	3	0	3	3	3	3
Native ground cover (grass)	1	2	0	2	2	2	2
Native ground cover (shrubs)	1	2	0	2	2	2	2
Native ground cover (other)	2	3	0	3	3	3	3
Exotic plant cover	3	3	0	3	3	3	3
Number of trees with hollows	0	0	0	0	0	0	0
Regeneration	3	3	0	3	3	3	3
Fallen Logs	2	3	0	3	3	3	3
Site Value Score	64.76	75.00	0.00	75.00	75.00	75.00	75.00

Vegetation Zone 9: Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner (SR512)- MG (Under-scrubbed)

Offset Zone	Current Site Value	Future Site Value	Development	Offset Areas
Airport Zone			N/A	None
Fuel Zone			N/A	None
Native plant species richness	3	3	0	3
Native over-storey	3	3	0	3
Native mid-storey	0	1	0	1
Native ground cover (grass)	0	1	0	1
Native ground cover (shrubs)	0	1	0	1
Native ground cover (other)	2	3	0	3
Exotic plant cover	2	3	0	3
Number of trees with hollows	2	2.5	0	2.5
Regeneration	3	3	0	3
Fallen Logs	0	0	0	0
Site Value Score	56.77	68.40	0.00	68.40

Vegetation Zone 20: Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner (SR512)- MG (Grassland)

Offset Zone	Current Site Value	Future Site Value	Development
Airport Zone			N/A
Fuel Zone			N/A
Native plant species richness	2	3	0
Native over-storey	0	1	0
Native mid-storey	3	3	0
Native ground cover (grass)	0	1	0
Native ground cover (shrubs)	3	3	0
Native ground cover (other)	3	3	0
Exotic plant cover	2	3	0
Number of trees with hollows	0	0	0
Regeneration	0	0.5	0
Fallen Logs	0	0	0
Site Value Score	32.29	49.22	0.00

Vegetation Zone 22: Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner (SR512)- MG (Hind dune)

Offset Zone	Current Site Value	Future Site Value	Offset Areas				
Airport Zone			None	C	D	E	None
Fuel Zone			None	None	None	None	Yes
Native plant species richness	3	3	3	3	3	3	3
Native over-storey	3	3	3	3	3	3	3
Native mid-storey	3	3	3	3	3	3	3
Native ground cover (grass)	0	1	1	1	1	1	1
Native ground cover (shrubs)	1	2	2	2	2	2	2
Native ground cover (other)	3	3	3	3	3	3	3
Exotic plant cover	3	3	3	3	3	3	3
Number of trees with hollows	3	3	3	3	3	3	3
Regeneration	3	3	3	3	3	3	3
Fallen Logs	2	3	3	3	3	3	2
Site Value Score	86.98	95.31	95.31	95.31	95.31	95.31	90.10

Vegetation Zone 10: Coast Banksia - Coast Wattle dune scrub, Sydney Basin and South East Corner (SR531)- MG (Good)

Offset Zone	Current Site Value	Future Site Value	Development	Offset Areas				
Airport Zone			N/A	None	B	C	D	E
Fuel Zone			N/A	None	None	None	None	None
Native plant species richness	2	3	0	3	3	3	3	3
Native over-storey	2	3	0	3	2	3	3	3
Native mid-storey	3	3	0	3	3	3	3	3
Native ground cover (grass)	0	1	0	1	1	1	1	1
Native ground cover (shrubs)	1	2	0	2	2	2	2	2
Native ground cover (other)	3	3	0	3	3	3	3	3
Exotic plant cover	3	3	0	3	3	3	3	3
Number of trees with hollows	0	0	0	0	0	0	0	0
Regeneration	3	3	0	3	3	3	3	3
Fallen Logs	2	3	0	3	3	3	3	3
Site Value Score	54.69	73.44	0.00	73.44	68.23	73.44	73.44	73.44

Vegetation Zone 23: Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner (SR512)- MG (Under-scrubbed Regrowth with weedy groundcover)

Offset Zone	Current Site Value	Development
Airport Zone		N/A
Fuel Zone		N/A
Racecourse Zone		N/A
Native plant species richness	2	0
Native over-storey	0	0
Native mid-storey	3	0
Native ground cover (grass)	0	0
Native ground cover (shrubs)	3	0
Native ground cover (other)	3	0
Exotic plant cover	2	0
Number of trees with hollows	0	0
Regeneration	0	0
Fallen Logs	0	0
Site Value Score	32.29*	0.00

* Site value score <34, therefore in Low condition as defined by the BCAM.

Appendix 3: Area of each Vegetation Zone within Development and Conservation Footprints

DEVELOPMENT

IMPACT LOCATION	VEGETATION ZONE AREA (HA)						CLEARED	TOTAL
	1	8	9	20	23			
Airport Clearing		11.02		21.54			67.26	99.83
Broulee Clearing	32.13		3.97				0.92	37.02
Racecourse Clearing	4.62	0.33	0.70		1.43			7.08
Total	36.76	11.35	4.66	21.54	1.43		68.18	143.93

CONSERVATION

CONSERVATION LAND ID	AIRPORT MANAGEMENT ZONE (OLS)	FIRE MANAGEMENT ZONE (FMZ)	VEGETATION ZONE AREA (HA)											CLEARED	TOTAL	
			1	2	3	7	8	9	10	14	19	20	22			
1	None	None	66.1		3.0									2.2	5.7	77.0
1	B	None	0.0					18.7								18.7
1	C	None	19.3					1.8						3.8		24.9
1	D	None	26.4											3.7		30.1
1	E	None	27.6		2.5				0.0					2.7	1.0	33.8
1	None	Yes	1.9											0.6	0.1	2.6
2	None	None	10.0		2.0				20.9					17.1		50.0

CONSER- VATION LAND ID	AIRPORT MANAGEMENT ZONE (OLS)	FIRE MANAGEMENT ZONE (FMZ)	VEGETATION ZONE AREA (HA)											CLEARED	TOTAL	
			1	2	3	7	8	9	10	14	19	20	22			
2	B	None					1.4		0.1							1.5
2	C	None					1.4		1.5				0.5			3.4
2	D	None					0.0		1.4				1.7			3.1
2	E	None			0.0				1.1				2.2			3.3
2	None	Yes											0.1			0.1
3	None	None	57.8								1.3			0.2		59.4
3	C	None	2.3				0.0				0.2			0.6		3.1
3	D	None	4.5				0.0				1.1					5.6
3	E	None	5.0								0.4			0.0		5.5
4	None	None	9.7	0.5										0.4		10.6
5	None	None	23.6	4.1	1.3		1.6					4.9		0.8		36.3
6	None	None	0.6	0.5		9.8		0.0			1.0			0.0		12.0
7	None	None	7.1													7.1
8	None	None	6.2				4.9							0.1		11.1
8	C	None					0.6									0.6
8	D	None					2.2							0.0		2.2
8	E	None	0.5				2.6							0.1		3.2
9	None	None	6.2											0.0		6.2
10	None	None	2.8													2.1
			277.6	5.1	8.8	9.8	35.3	0.0	25.0	4.1	4.9	0.0	34.4	9.1		413.7

Appendix 4: Transect/Plot Data

Vegetation Zone 1: Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner (SR512)- MG (Good)

PLOT NAME	NPS	NOS	NMS	NGCG	NGCS	NGCO	EPC	NTH	OR	FL	EASTING	NORTHING	ZONE
Plot 1	35	28	40	22	2	46	0	5	1	48	244233	6029270	56
CMACouncil plot 1	35	20	20	5	1	0.5	0	3	0	194	243420	6027502	56
CMACouncil plot 2	20	20	15	0.5	0.5	65	1	3	2	52	243153	6027565	56
CMACouncil plot 3	18	15	5	0.5	0.5	70	0	3	1	42	242087	6025168	56
CMACouncil plot 4	29	10	15	0.5	0.5	55	0	1	1	25	243017	6026801	56
CMACouncil plot 5	27	10	20	7	0.5	12	0.5	2	1	74	243017	6026801	56
CMACouncil plot A	17	18	60	1	1	12	0	4	0	42	241969	6024707	56
CMACouncil plot B	18	5	1	80	0	20	1	1	1	25	241876	6024631	56

Vegetation Zone 8: Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner (SR512)- MG (Regrowth)

PLOT NAME	NPS	NOS	NMS	NGCG	NGCS	NGCO	EPC	NTH	OR	FL	EASTING	NORTHING	ZONE
Plot 1	30	23	47	30	2	24	0	0	1	37	242582	60254552	56
Plot 2	30	28	58	6	0	12	4	0	1	52	241876	6023342	56
Plot 3	28	31	58	10	0	12	2	0	1	22	241941	6022708	56

Vegetation Zone 9: Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner (SR512)- MG (Under-scrubbed)

PLOT NAME	NPS	NOS	NMS	NGCG	NGCS	NGCO	EPC	NTH	OR	FL	EASTING	NORTHING	ZONE
Plot 1	32	37.5	0	66	0	12	16	1	1	0	244145	6028331	56

Vegetation Zone 20: Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner (SR512)- MG (Grassland)

PLOT NAME	NPS	NOS	NMS	NGCG	NGCS	NGCO	EPC	NTH	OR	FL	EASTING	NORTHING	ZONE
Plot 1	21	0	3	92	6	58	2	0	0	0	242035	6023203	56
Plot 2	17	0	9	90	10	80	18	0	0	0	242458	6024688	56

Vegetation Zone 22: Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner (SR512)- MG (Hind dune)

PLOT NAME	NPS	NOS	NMS	NGCG	NGCS	NGCO	EPC	NTH	OR	FL	EASTING	NORTHING	ZONE
Plot 1	21	31.5	20.5	66	2	16	0	2	1	68	243196	6026356	56
Plot 2	19	29	18	82	0	20	0	4	1	86	244052	6027641	56
Plot 3	24	22.5	15	56	0	24	0	1	1	22	242898	6025798	56

Vegetation Zone 10: Coast Banksia - Coast Wattle dune scrub, Sydney Basin and South East Corner (SR531)- MG (Good)

PLOT NAME	NPS	NOS	NMS	NGCG	NGCS	NGCO	EPC	NTH	OR	FL	EASTING	NORTHING	ZONE
Plot 1	15	1.5	21.5	64	0	56	0	0	1	24	243391	6026441	56
Plot 2	15	0.5	22	56	2	30	0	0	1	93	244119	6027493	56
Plot 3	19	32	40.5	58	2	60	4	0	1	3	242881	6025204	56

Vegetation Zone 23: Coast Banksia - Coast Wattle dune scrub, Sydney Basin and South East Corner (SR531)- MG (Under-scrubbed Regrowth with weedy groundcover)

PLOT NAME	NPS	NOS	NMS	NGCG	NGCS	NGCO	EPC	NTH	OR	FL	EASTING	NORTHING	ZONE
Plot 1	16	41	0	20	2	2	50	0	0.66	0	241785	6024389	56

Appendix 5: Credits Generated by Conservation Lands

ECOSYSTEM CREDITS

CONSERVATION LAND ID	VEGETATION TYPE	CREDITS CREATED FOR MANAGED OFFSET	DISCOUNT	TOTAL CREDITS CREATED FOR MANAGED OFFSET
1	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	1,854	10%	1669
2	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	345	0%	345
2	Coast Banksia - Coast Wattle dune scrub, Sydney Basin and South East Corner	284	0%	284
3	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	756	0%	756
4	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	104	0%	104
5	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	270	0%	270
6	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	7	0%	7
7	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	77	0%	77
8	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	174	0%	174
9	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	75	75%	19
10	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	18	75%	5
10 (Discounted)	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	7	75% then 10%	2
Total		3,871	4,402	N/A

SPECIES CREDITS – WHITE-FOOTED DUNNART

CONSERVATION LAND ID	CREDITS CREATED FOR MANAGED OFFSET	DISCOUNT	TOTAL CREDITS CREATED FOR MANAGED OFFSET
1	1049	10%	944
2	356	0%	356
3	418	0%	418
4	58	0%	58
5	151	0%	151
6	4	0%	4
7	43	0%	43
8	102	0%	102
9	37	75%	9
10	9	75%	2
10 (Discounted)	4	75% then 10%	1
Total	2,231	N/A	2,089

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Land Proposed for Biodiversity Certification



Legend

Proposed Development Area




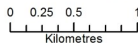
-  Moruya Airport
-  Broulee Urban Precinct
-  Racecourse

Image: LPMA 2010



Projection: GDA 1994 MGA Zone 56



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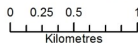
Land Proposed for Certification



Legend

 Proposed Conservation Area

Image: LPMA 2010



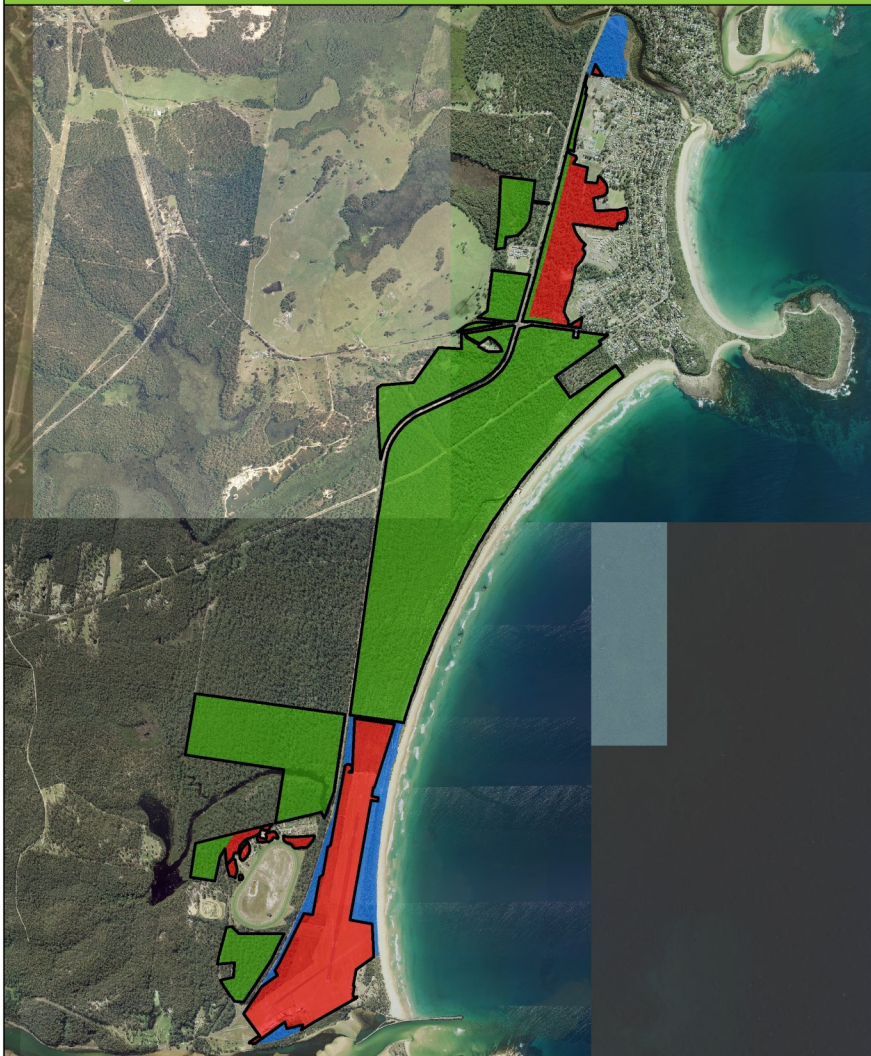
Projection: GDA 1994 MGA Zone 56



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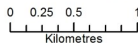
Biodiversity Certification Assessment Area



Legend

-  Biodiversity Certification Assessment Area
-  Development Area
-  Offset Area
-  Retained Lands

Image: LPMA 2010

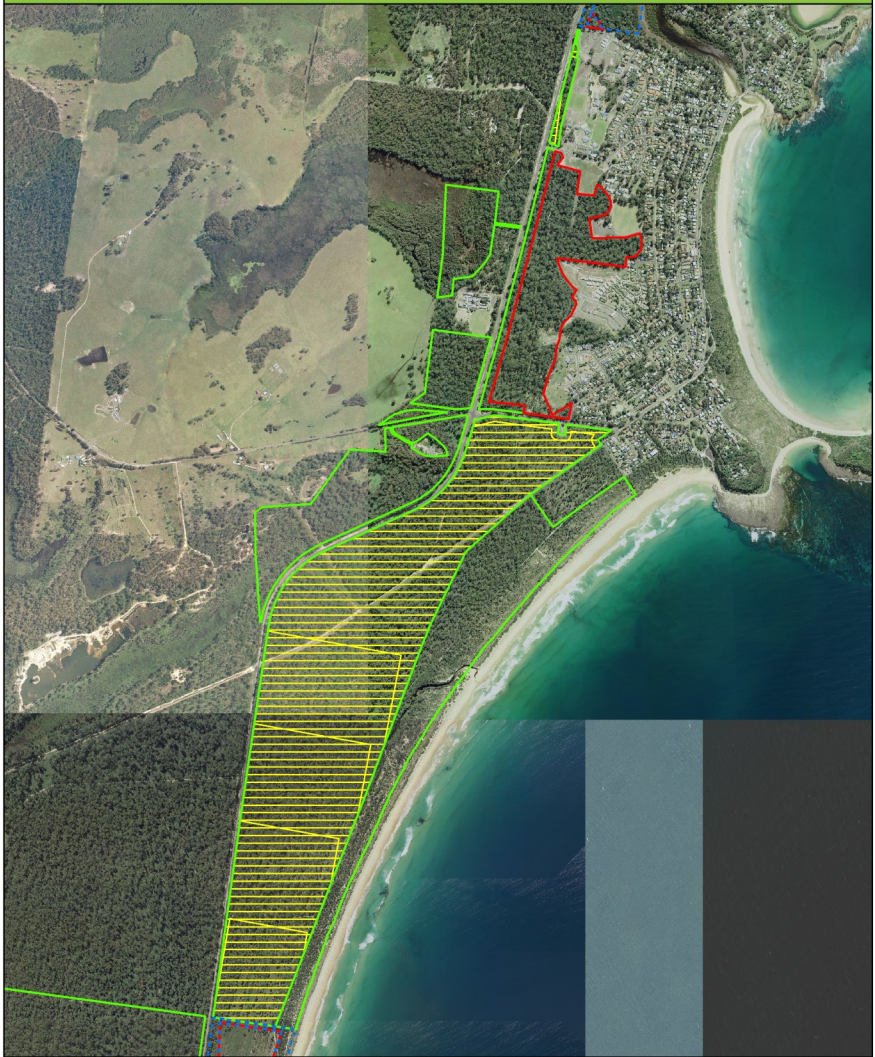


Projection: GDA 1994 MGA Zone 56



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Area Subject to Additional Reduction as a result of Existing Conservation Obligations



Legend





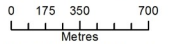
-  Development Area
-  Offset Area
-  Retained Lands
-  Area Subject to Additional Reduction

Image: LPMA 2010

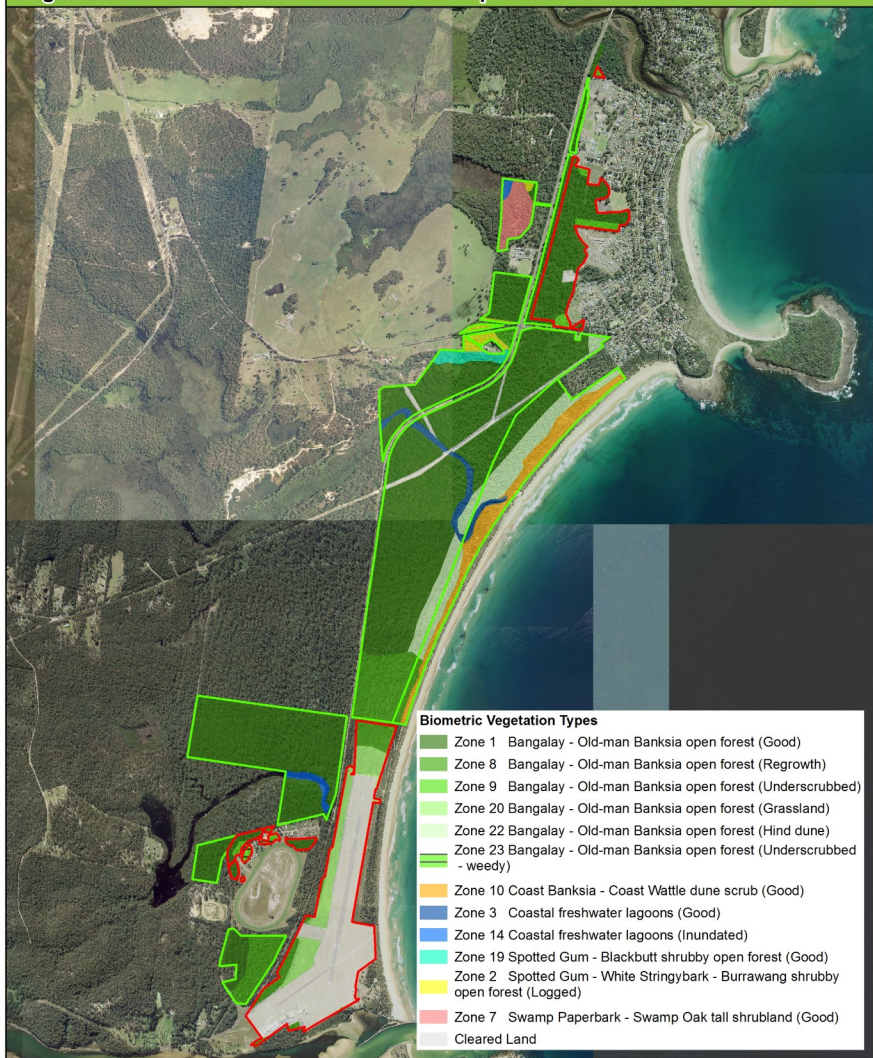


Projection: GDA 1994 MGA Zone 56



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Vegetation Zones Assessed within the Development Area and Conservation Area



Legend

- Development Area
- Offset Area

Image: LPMA 2010
 0 0.25 0.5 1
 Kilometres

Projection: GDA 1994 MGA Zone 56



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Vegetation Red Flags




Legend

 Development Area

 Offset Area

Vegetation Red Flags

 Impacted


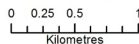
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Image: LPMA 2010



Projection: GDA 1994 MGA Zone 56




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White-footed Dunnart Red Flags




Legend

 Development Area

 Offset Area

White-footed Dunnart Red Flags

 Impacted


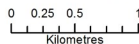
 Not Impacted

Image: LPMA 2010



Projection: GDA 1994 MGA Zone 56



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Indirect Impacts Buffer - Racecourse



Legend



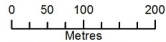
-  Racecourse
-  Racecourse Indirect Impacts

Image: LPMA 2010



Projection: GDA 1994 MGA Zone 56



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